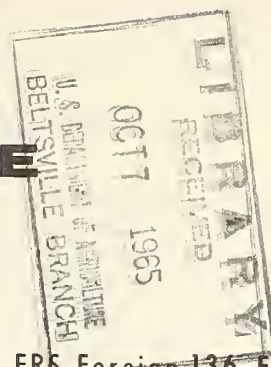


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FOREIGN AGRICULTURE ECONOMICS



BULGARIA'S
Agricultural
Economy
in Brief
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AGRICULTURE IN THE ECONOMY

Agriculture occupies much the same position in Bulgaria as it does in other Communist countries--a position that is definitely subordinate to that of industry. In recent years, however, there has been increasing emphasis on agriculture, and output has been rising, albeit slowly. Agriculture accounts for one-third of the country's income. (In the late 1940's, it accounted for 40 to 50 percent of the national income.)

Only 18 percent of total investment between 1944 and 1960 was allocated to agriculture, while industry received about 40 percent. Thus, while one-third to one-half of Bulgaria's output in the past two decades has been attributable to agriculture, that sector of the economy has received only 18 to 25 percent of total investments. Improvement is contemplated in the current 20-year plan (1961-80), which stipulates that agriculture will receive about one-fourth of all investment during the 1960's.

Bulgaria's labor force totals near 3.5 million persons; about half is engaged in agriculture.

Another measure of the importance of agriculture is manifest in the fact that almost half of Bulgaria's exports originate in agriculture. Agricultural commodities amount to only 5 percent of total imports. Recent policy developments indicate that agriculture will continue to be important in foreign trade. Considerable investment is being made to increase the output of crops for export.

POPULATION

The population of Bulgaria was estimated at 8,206,297 on July 1, 1965. In 1956, the year of the last census, the population was 7,613,700. (A new census is to be taken in December 1965.) Since then, the rate of population increase has averaged nearly 1 percent (0.95) annually. In the preceding decade, the yearly rate of growth was 0.8 percent. The 1956 census showed an equal distribution between the sexes, a peculiarity for a European country. Population density in Bulgaria averages nearly 200 (190) persons per square mile and 360 per square mile--or about one person per two acres--on the basis of agricultural

land alone. The village population is approximately 55 percent of the total. There are only 5 cities in the country with more than 100,000 inhabitants. Sofia, the capital, is the largest, with 821,593 residents on July 1, 1965.

LAND AND CLIMATE

The Balkan Mountains separate Bulgaria into its various agricultural and climatic regions. Dividing the country nearly in the center, this mountain range extends from the Black Sea westward to the Yugoslav border. The broad, rolling Danubian Plain--the granary of the country--lies to the north, between the Balkans and the Danube River which forms most of the Bulgarian-Rumanian border. Deep, fertile, loess soils predominate in the plain, and water resources in the region are adequate, since it is crossed by tributaries of the Danube.

South of the Balkans is another region favorably suited to agriculture, although not so large nor as homogeneous as that to the north. The western part of this region is a valley, bounded by the Balkans on the north and the Rhodope Mountains on the south and west. The eastward extension of this valley terminates at the Black Sea and encompasses the northern part of the Thracian Plain.

Bulgaria has predominantly a temperate continental climate, but this varies depending upon location relative to the Balkan Mountains. The Danubian Plain is largely continental in climate, but south of the Balkans--in the Thracian Plain--there is a transitional climate between continental and Mediterranean. Due to the barrier formed by the Balkan Mountains, past which cold, north winds do not penetrate, the southernmost part of the country has the warmest climate, with hot summers and mild winters. Bulgaria's mean annual temperature is about 55° F. In January, the mean temperature is 32° F., averaging 28° F. in the north and 36° F. in the south.

Rainfall in Bulgaria's agricultural regions averages about 25 inches annually. In summers, however, rainfall is inadequate, and for certain crops irrigation is required.

LAND USE

The total land area of Bulgaria is 42,800 square miles, approximately the size of Tennessee. Of this, 52 percent, or about 14.1 million acres, is considered agricultural land. There are 11.9 million acres of arable land, 7.4 million of which are sown to field crops. An additional 8.9 million acres are covered by forests.

Grain crops occupy about 5.9 million acres. Wheat and corn account for about 50 and 25 percent, respectively, of the total grain area. The remaining grain area is devoted to barley, rye, oats, and rice. Sunflowers, sugar beets, and potatoes are of lesser importance.

Tobacco, fruit, grapes, and tomatoes, all significant from the aspect of foreign trade, are the most important specialty crops. An expansion of the area devoted to orchards and vegetables, particularly those grown in hothouses, is in progress.

ORGANIZATION OF AGRICULTURE

The socialized sector of agriculture in Bulgaria accounts for almost 80 percent of all agricultural production, a level which no other East European country, including the USSR, has achieved.

Labor Cooperative Farms (LCF) are the basic farming unit. Although much smaller, they operate on the same principle as collective farms in the USSR. In the late 1950's there were as many as 3,290 LCF's encompassing about 9.4 million acres of arable land. Through mergers and enlargement, the number of farms of this type dropped to 981 by the end of 1964. Each farm had an average of 1,457 farmers.

State farms are the other basic type of farm unit in Bulgaria's socialized agriculture. They are not so numerous as the LCF's, totaling only 85 in 1964, and their function is fundamentally different from that of the LCF. State farms are designed principally to serve as models for the LCF's and to provide them with improved seeds and breeding stock. The area under state farms has been gradually increasing, totaling 864,850 acres of arable land in 1963. These farms had 3,750 tractors (in terms of 15 hp. units) and employed 106,000 workers.

Machine Tractor Stations (MTS), in which farm implements are pooled in order to service collectives, still existed in Bulgaria as recently as 1963, although their abolition was decreed in 1962. The LCF's were to purchase all MTS machinery and equipment, but financial inability of the farms to make these purchases precluded the planned demise of the MTS. In 1963 there were 93 MTS in the country as opposed to 218 in 1961. Workers and employees numbered 18,963 and 57,486 in the 2 years respectively, and the numbers of tractors 13,658 and 31,987, in 15 hp. units.

AGRICULTURAL PRODUCTION

Changes in the level of agricultural output have been slight and sporadic in recent years. Total net output has increased about 5 percent thus far in the 1960's; per capita net output has risen even less, only 3 to 4 percent, or roughly the equivalent of the increase in population. The index of net agricultural production for recent years is given in table 1.

For 1965, the Bulgarians have scheduled the volume of total agricultural output to increase by 8 percent, including 4 percent from livestock production and 9 percent from crops.

Insufficient supplies of concentrate and protein feeds have been deterrents to increasing the size of the livestock herd and to raising the output level of animal products. In 1963, the value of the Bulgarian livestock herd was only 22 percent greater than in 1956, indicating a relative lack of emphasis in that direction. The fact that the livestock herd is almost completely socialized aggravates this situation, since relatively few animals can benefit from whatever initiative individual owners might take to secure adequate feed. There is little likelihood that the 1965 plan calling for 1 million animals in the cow herd and 13 to 15 million head of sheep will be met.

Table 1.--Index of net agricultural production in Bulgaria, 1961/62-1964/65 ^{1/}

(1952/53-1954/55 = 100)		
Year	Total	Per capita
1961/62	145	133
1962/63	154	140
1963/64	148	134
1964/65 ^{2/}	153	138

^{1/} The index measures the value of livestock products and the value of crops (less feed, seed, and waste) produced in a given crop year, and is calculated in the following manner: The value of the crops (net) produced in a given calendar year is added to the value of livestock products produced in the last half of that calendar year and the first half of the next in order to arrive at the value of output for the crop year.

^{2/} Preliminary.

Source: Economic Research Service, East European Branch. The 1965 Eastern Europe Agricultural Situation. U.S. Dept. Agr., ERS-Foreign-115, Mar. 1965.

Large-scale poultry enterprises are receiving considerable attention, and the chicken flock is planned to total 70 to 80 million birds in 1965. (Table 2 presents data relating to agricultural production in recent years.)

INPUTS

The predominance of the socialized sector in Bulgaria's agriculture is reflected in the pattern of input allocation. In 1963, 92 percent of total agricultural land and 90 percent of the arable land fell within the nonprivate sphere; 96 percent of the farm labor force and all of the country's 54,602 tractors were in the socialized sector. (Private plots, the size of which ranges between 0.5 and 2.5 acres, comprise a total area of 988,400 acres, or 8.3 percent of the arable land in Bulgaria.)

The agricultural chemical industry is inadequate to meet the demands for its products, and the use of chemical fertilizers is low, although increasing. In 1964, a total of 283,000 metric tons of fertilizers were utilized, and application rates averaged 53 pounds per acre. This was calculated to be about one-fourth of optimum. In 1963, only 33 pounds were applied per acre; the 1965 plan stipulates that 66 will be used. The lack of specific chemicals has precluded control of certain insects, one of which causes serious losses in the cereal grain crop year after year.

Because Bulgaria suffers periodically from droughts -- one of the reasons for fluctuations in the level of farm output -- the amount of land under irrigation has been increasing in recent years. In 1964, there were 2,293,100 acres of irrigated land, and with the addition of 138,130 acres planned in 1965,

Table 2.--Bulgaria: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64

Item	1955-59 average		1962		1963		1964 ^{1/}	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 acres	Million bushel	1,000 acres	Million bushel	1,000 acres	Million bushel	1,000 acres	Million bushel
Field crops:								
Wheat	3,464	79.2	3,074	76.5	2,936	69.5	3,138	74.6
Rye	319	5.1	146	1.9	141	2.2	148	2.0
Barley	655	21.1	749	27.5	848	28.4	766	28.5
Oats	405	12.1	376	7.9	329	9.2	358	10.6
Corn	1,841	50.5	1,609	61.2	1,631	68.2	1,668	73.1
Potatoes	79	11.5	106	13.3	106	15.2	106	14.7
		1,000 short tons		1,000 short tons		1,000 short tons		1,000 short tons
Sugar beets	146	1,170	178	1,236	170	1,237	188	2,039
Sunflower seed ..	504	255	672	394	628	370	588	367
Tobacco, all	247	86	297	117	306	116	363	141
Oriental	235	80	282	108	289	107	341	128
Virginia	12	6	15	9	17	9	22	13
Tomatoes	30	419	59	874	59	776	59	810
Wine grapes ^{2/}	329	547	343	823	343	849	343	678
Dessert grapes ^{2/} ..	62	128	114	279	121	357	121	287
		Million pounds		Million pounds		Million pounds		Million pounds
Livestock products:								
Red meat ^{3/}		351		536		498		496
Milk, all		1,971		2,482		2,520		2,485
Poultry ^{4/}		62		88		88		88
		Million units		Million units		Million units		Million units
Eggs		877		1,316		1,263		1,280
		1,000 head		1,000 head		1,000 head		1,000 head
Numbers: ^{5/}								
Cattle		1,507		1,582		1,582		1,494
Cows		557		599		600		568
Hogs		1,648		2,331		2,066		2,097
Sheep		7,918		10,161		10,107		10,308
Horses		443		301		277		256

^{1/} USDA preliminary estimates.

^{2/} Total area including nonbearing trees.

^{3/} USDA estimates; carcass weight.

^{4/} Dressed weight.

^{5/} January 1.

Source: Statisticheski godishnik narodna republika Bulgariya 1964.

more than 20 percent of the cultivated land in the country will be under irrigation. This will permit larger areas of the crops important in foreign trade to be irrigated. Eleven percent of the area in wheat will be irrigated; 18 and 33 percent, respectively, of the barley and corn areas; 48 percent of the sugar beet area; and 34 and 35 percent, respectively, of the areas devoted to tobacco and fruit.

Despite the fact that basic policy decisions are allocating the bulk of the more modern and productive types of inputs (irrigated land, fertilizer and other agricultural chemicals, concentrates and mixed livestock feed, etc.) to the socialized sector, increases in agricultural output in Bulgaria are generally inhibited by those factors common to Communist countries -- low levels of investment, centralized planning and decision making, relatively low agricultural prices, lack of incentives and persistent shortages of specific inputs.

AGRICULTURAL POLICY

Until 1959 the Bulgarian regime subscribed to a policy of compulsory deliveries, at low prices, to extract agricultural produce from the countryside. This was no more successful in Bulgaria than in other Communist countries, and the availability of agricultural products grew at a rate considerably below that envisaged by the State. Consequently, in 1959 compulsory deliveries were abolished, and contract purchases at fixed prices became the means by which the State procured basic products from the countryside.

The next series of measures to stimulate production came in 1962 when state purchase prices were increased for some agricultural commodities, and prices charged for certain production inputs were reduced. At that time the government also introduced a "guaranteed" monthly cash wage for collective farmers (to become effective in 1963), adjusted agricultural tax rates, and instructed the LCF's and local government officials to encourage production on the household plots of farm members.

These measures did not produce the desired response, and in 1964 an experiment was undertaken in certain farm areas. Under the "new system of planning and management," the farms are supposed to have "complete autonomy" in all phases of planning, production and marketing. In theory, the farms are required only to produce a set value of output and, with the exception of several "basic" crops, which will remain on quota delivery system, they are free to produce anything they wish. This new approach was considered to have been successful as an experiment and appears particularly well suited to encourage production of hothouse vegetables, which are important export commodities. The new system is reportedly scheduled to be extended to the whole national economy in 1966.

FOOD CONSUMPTION

A USDA food balance study for the years 1959-61 indicates that average daily per capita consumption in Bulgaria was about 2,900 calories. Hence, the diet was quantitatively adequate. It lacked balance, however, for two-thirds of the calories were derived from cereals. Meat and dairy products each accounted for less than 5 percent of total daily intake; fats and vegetable oils

exports are significant since they are frequently sold in the West for convertible currencies.

Exports of fruits and vegetables, both fresh and processed, have expanded rapidly during the past decade and it is planned that they will account for over 20 percent of the country's total exports in 1965. The Ministry of Foreign Trade recently established Bulgarplod, a state corporation, to organize and handle all aspects of the fruit and vegetable industry, including production, processing and trade. Bulgarplod is purported to concern itself with domestic as well as foreign trade, but being an organ of the Ministry of Foreign Trade, it is reasonable to assume that foreign trade will be emphasized. The establishing of this new centralized corporation indicates the importance the State attaches to the industry. Previously the various functions were performed by numerous smaller state enterprises.

Among Bulgaria's exports of fruits and vegetables, tomatoes -- particularly the early season varieties -- grapes, and apples are the most important, and since the mid-1950's their export has risen sharply. For example, fresh tomato exports in 1955 totaled 35,942 short tons, and in 1963 they amounted to 226,900 tons. Comparable data for exports of tomato puree were 9,697 short tons and 38,100 tons; for apples 3,694 short tons and 45,986 tons; and for dessert grapes 33,898 short tons in 1955 and 224,539 tons in 1963. Grapes are also important as raw material for other exports; in 1964 wine and brandy from 440,920 tons of grapes were exported.

Although some of Bulgaria's exports of fruits and vegetables are shipped outside the Bloc, primarily to West Germany and Austria, most of them go to the Soviet Union and other East European countries. In fact, Bulgaria's part in the Council for Economic Mutual Assistance (CEMA) is basically one of supplying these products to other member countries. Of the 716,495 short tons of fruits and vegetables it exported in 1963, 86 percent was intra-CEMA trade. Bulgaria has a fleet of large refrigerated trucks it uses to help transport these perishable commodities to countries as distant as France and West Germany.

Oriental tobacco is, traditionally, the most valuable export crop, and the government vigorously promotes this. Tobacco exports also have grown considerably in the 1960's. The tobacco export price varies from country to country, with the Free World paying the least, the USSR next to the lowest price, and Czechoslovakia, Poland, and East Germany the highest price. The same pricing pattern, apparently designed to maximize the acquisition of hard currency, also applies to other major export crops.

Bulgaria is renowned for its aromatic oils, especially rose oil, or attar of roses, which is used in the making of perfume. Mint oil is also important, and to a degree has overtaken rose oil as the major export of this type. Both of these oils are high value products -- rose oil being worth about $1\frac{1}{2}$ times an equivalent weight of gold -- that go to specialized markets. In general, the rose oil is exported to hard currency areas, and the mint oil to the USSR.

Livestock product exports are not large in absolute terms, but their volume has been trending upward. Considering the composition of the Bulgarian diet and its low content of animal products, it must be assumed that exports of livestock products are made primarily for reasons connected with the bal-

ance of payments. In 1962 Bulgaria exported nearly 10 percent of its meat production, and this was directed mainly to hard currency countries.

Imports of agricultural commodities since 1960 included cotton, grain, and sugar as major items (table 4). East European countries have supplied at least 70 percent of these imports. However, in 1963 -- when several East European countries, including the Soviet Union, suffered from poor grain harvests -- agreements were made to import wheat from the West.

Table 4.--Bulgaria: Principal agricultural imports, average 1955-59, annual 1960-63

Commodity	: 1955-59 : : average :	1960	: 1961	: 1962	: 1963
	: : - - - - -	-1,000 short tons	- - - - -		
Wheat	89.4	150.2	8.4	132.2	n.a.
Rice, milled	4.5	14.3	13.7	14.3	n.a.
Sugar	6.2	37.5	109.1	136.8	n.a.
Rubber, crude	4.9	6.7	6.7	8.6	n.a.
Cotton, lint	18.2	33.2	33.4	52.4	35.1
Wool, scoured	1.9	2.3	1.4	1.2	1.9
Hides and skins	1.8	2.3	2.8	2.8	4.0

Source: Vunshna turgoviya na narodna republika Bulgariya: Statisticheski sbornik 1955-61, and 1956-62 and Statistischeski godishnik na narodna republika Bulgariya 1964.

Before World War II, wheat was among Bulgaria's exports. Since 1955 wheat has been a net import every year except 1956 and 1961. A decline in sown area has been the major reason for this, and the regime has indicated an intention to further reduce wheat acreage in the future so that it may increase plantings of relatively more profitable fruits and vegetables. Similarly, the cotton area dropped sharply (60 percent) between 1955 and 1963, and net imports in 1955. The manufacture of cotton cloth increased 90 percent during the 8-year interval, and yarn output went up 85 percent. For both wheat and cotton, the USSR supplied the bulk of the imports.

Agricultural trade between Bulgaria and the United States is insignificant, but it increased sharply in 1964 over previous levels. Until 1964, trade was limited to the export of seeds by the United States and to imports of such items as cheese, paprika, and rose oil from Bulgaria. Last year, however, the trading picture took on a different aspect. Not only did the volume of trade increase markedly -- from \$1,332,00 in 1963 to \$5,996,000 in 1964 -- but the balance of trade shifted in favor of the United States. In addition, the value of agricultural products in total trade went up from the more or less constant level of 75 percent, maintained during the past years, to 87 percent (tables 5 and 6). The sale of \$2.6 million worth of cotton, \$928,000 worth of soybean oilcake and meal, \$654,000 worth of corn, and \$154,000 worth of inedible tallow to Bulgaria was the reason for these changes.

Table 5.--U.S. trade with Bulgaria, 1945-63

Year	U.S. exports	U.S. imports	Year	U.S. exports	U.S. imports
	- - - 1,000 dollars 1/ - - -			- - - 1,000 dollars 1/ - - -	
1945	375	3,010	1955	125	402
1946	1,930	7,588	1956	24	436
1947	1,471	4,651	1957	2/	459
1948	2,086	831	1958	129	700
1949	1,389	1,664	1959	763	965
1950	857	2,348	1960	72	781
1951	30	519	1961	47	1,248
1952	24	275	1962	33	1,136
1953	5	353	1963	137	1,195
1954	5	311	1964	4,819	1,177

1/ Current U.S. dollars. 2/ Less than \$500.

Sources: U.S. Department of Commerce. Analysis of Bulgarian Foreign Trade 1920-60. Bur. Internatl. Com. World Trade Inform. Serv. Econ. Rpts. Part 1, No. 62-70. 1962; and U.S. Department of Commerce. Trade of the United States With the Sino-Soviet Bloc, 1962-64. Bur. Internatl. Com. Overseas Bus. Rpts., OBR 65-44, p. 1. June 1965.

Table 6.--U.S. agricultural trade with Bulgaria, 1961-64

Commodity	Unit	Quantity				Value			
		1961	1962	1963	1964	1961	1962	1963	1964
						- - - 1,000 dollars - - -			
<u>Exports to Bulgaria</u>									
Seed corn, except sweet seed-:									
corn	1,000 bushel:	0.1	-	-	-	6	-	-	-
Seedbeans	1,000 pounds:	-	66	176	-	-	6	50	-
Soybean oilcake and meal ...:	Short tons	-	-	-	11,750	-	-	-	928
Seeds for planting	do.	-	1	22	1/	-	1	41	1
Corn, except seed	1,000 bushel:	-	-	-	460	-	-	-	654
Cotton, raw, except linters ..:	Bales	-	-	-	19,279	-	-	-	2,621
Tallow, inedible	1,000 pounds:	-	-	-	2,205	-	-	-	154
Total						6	7	91	4,358
<u>Imports from Bulgaria</u>									
Cheese	1,000 pounds:	690	820	581	836	165	180	140	206
Onion, dehydrated	do.	698	88	174	253	162	30	40	75
Paprika	do.	1,584	1,586	1,309	908	390	409	343	278
Tobacco, unmanufactured	do.	47	-	-	-	29	13	-	-
Wild pig and hog skins	1,000 pieces:	9	-	20	-	19	-	27	-
Poppyseed	1,000 pounds:	-	218	365	-	-	17	24	-
Bristles	do.	15	1	9	3	38	9	29	19
Crude vegetable materials ...:	...	...	...	...	...	37	68	54	78
Rose oil	Ounces	4,310	6,763	7,049	7,776	185	239	242	280
Total						1,025	965	908	936

1/ Less than 1/2 the unit.

Sources: U.S. Department of Commerce., Trade of the United States With the Sino-Soviet Bloc, 1961-63. Bur. Internatl. Com., Overseas Bus. Rpts. OBR 64-84, p. 4, July 1964; and 1962-64, OBR 65-44, p. 4, June 1965.

Because of the U.S. policy requiring export licenses prior to sale for all products shipped to the Soviet Union and the East European communist countries, no cotton was sold to Bulgaria between 1951 and 1964. (General export licenses to these countries were revoked on March 1, 1951.) Although this policy has been somewhat liberalized since mid-1954 in regard to non-strategic goods, it was not until October 1963 that conditions for exporting U.S. agricultural products were relaxed. At that time, President Kennedy announced that he saw no reason why U.S. farm products should not be sold to East European countries. He stipulated that such sales should be made through private dealers and that payment would be made in dollars or gold and in cash or on normal commercial terms. It was on this basis that export licenses were issued for the 19,279 bales of cotton that were shipped to Bulgaria in 1964.

So long as Bulgaria continues to be a net importer of wheat and cotton, there is a possibility of increased trade between the two countries. Whether Bulgaria would expand trade with the United States does not depend so much on the balance of trade, which favored Bulgaria until 1964, but more on political factors, such as the relaxation on the issuance of export licenses. From the Bulgarians' point of view, however, they would be much more willing to increase trade if they could obtain most-favored-nation treatment by the United States. Livestock feeding materials in general are potentially important U.S. agricultural export items which would most likely be purchased by Bulgaria, providing it had the hard currency needed.

Future U.S.-Bulgarian trade relations may also be affected by intra-Bloc changes. For example, will Bulgaria's trade continue to be CEMA oriented, or will it shift to other areas of the world? For political reasons, it seems improbable that Bulgaria would move away from CEMA within the foreseeable future. But, as the Bulgarian economy grows, the volume of trade with the West should increase, and given the proper conditions, a larger share of this could be with the United States.

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